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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,826	12/07/2004	Kenji Ohtsuka	396.44480X00	7453
20457	7590	04/20/2007	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP			VANOY, TIMOTHY C	
1300 NORTH SEVENTEENTH STREET			ART UNIT	PAPER NUMBER
SUITE 1800			1754	
ARLINGTON, VA 22209-3873				
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE		DELIVERY MODE	
3 MONTHS	04/20/2007		PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/516,826	OHTSUKA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Timothy C. Vanoy	1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 December 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 2,16,17 and 19-34 is/are allowed.
- 6) Claim(s) 1,3-15 and 18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 07 December 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____.                                     |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07 Dec. 2004</u> .  | 6) <input type="checkbox"/> Other: _____.                         |

## DETAILED ACTION

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement filed on Aug. 11, 2006 does not fully comply with the requirements of 37 CFR 1.98(b) because the IDS incorrectly refers to the "Official Action" as being Japanese whereas it appears to be Chinese. Additionally, the application number for this Chinese Official Action appears to be in error. Since the submission appears to be *bona fide*, applicant is given **ONE (1) MONTH** from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statement. NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this notice will result in the above mentioned information disclosure statement being placed in the application file with the noncomplying information **not** being considered. See 37 CFR 1.97(i).

### ***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

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The oath or declaration is defective because:  
It does not identify the citizenship of any of the inventors.

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract **not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

*In this application, the abstract exceeds 150 words in length and is therefore too long.*

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-15 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by the English translation of JP 07-185,344 to Aoyama et al.

The Example on pg. 1 of 4 in the English translation of Aoyama et al. discloses a method for removing HC (i. e. hydrocarbon) and CO out of internal combustion engine

exhaust gas by passing the exhaust gas over a three way catalyst comprising what appears to be palladium metal and ceria (i. e. a metal oxide) supported on alumina.

Over a period of time, the palladium catalyst system is temporarily deteriorated due to exposure to exhaust that is emitted from an engine that is operated at a rich air to fuel ratio. To restore the catalyst back to its conversion activity, the engine is operated under lean burn conditions so that a relatively oxygen-rich exhaust gas passes over the catalyst (which appears to oxidize the catalyst back to its active state).

Oxygen sensors are provided both in the upstream portion and the downstream portion of the three way catalyst, and a controller is provided for carrying out feedback control of the fuel injection volume so that so that the air-fuel ratio may be turned into a theoretical air-fuel ratio based on the output of the oxygen sensors (please see paragraph no. 0022 on pg. 1 or 4 in the English translation of Aoyama et al.)

Claims 16 and 17 has not been rejected under either 35USC102 or 35USC103 because the Aoyama et al. reference does not expressly describe or suggest the claimed catalytic metals set forth in applicants' claims 16 and 17.

Claims 2 and 19-34 have not been rejected under either 35USC102 or 35USC103 because there is nothing in the Aoyama et al. reference teaching or suggesting that at least two kinds of exhaust gas selected from exhaust gas containing nitrogen oxides and organic solvent; exhaust gas containing nitrogen oxides and exhaust gas containing organic solvent are contacted alternatively or at random with the catalyst composition.

The following references are made of record:

The English abstract of EP 547,934 A1 disclosing the use of a catalyst containing both elemental metal and metal oxides for the selective reduction of NOx in a gas stream;

U. S. Pat. 3,867,508 disclosing the use of a catalyst containing both the reduced and oxidized species of copper for catalytically removing NOx and HC out of automotive exhaust gas. It is noted that U. S. Pat. 3,867,508 does not expressly teach or suggest the limitation in the applicants' independent claims that a variation of a constitutional ratio between the reductive cleaning agent and the oxidative cleaning agent is simultaneously detected with the progress of the oxidation-reduction reaction.;

U. S. Pat. 3,907,714 disclosing a method for the catalytic reduction of nitrogen oxides; and

U. S. Pat. 3,916,805 disclosing a method for minimizing the emissions of NOx from exhaust gas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Timothy C Vanoy*  
Timothy C Vanoy  
Primary Examiner  
Art Unit 1754

tv